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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,090	02/20/2004	Henry W. Bonk	402200003DVC	6886

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EXAMINER	
AUGHENBAUGH, WALTER	

ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,090	BONK ET AL.	
	Examiner	Art Unit	
	Walter B. Aughenbaugh	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. The amendments made in claims 1-10 in the Amendment filed on October 12, 2005 (Amdt. A) have been received and considered by Examiner.

WITHDRAWN REJECTIONS

2. The obviousness double patenting rejection of claim 1 made of record in paragraph 2 of the previous Office Action mailed July 12, 2005 has been withdrawn due to Applicant's amendment in claim 1 in Amdt. A.

3. The 35 U.S.C. 112 rejection of claims 4 and 5 made of record in paragraph 4 of the previous Office Action mailed July 12, 2005 has been withdrawn due to Applicant's amendments in Amdt. A.

REPEATED REJECTIONS

Claim Rejections - 35 USC § 102

4. The 35 U.S.C. 102 rejection of claims 1-3, 5, 6, 9 and 10 made of record in paragraph 6 of the previous Office Action mailed July 12, 2005 has been repeated for the reasons previously made of record and for the following reasons that address the amendments made in claim 1 in Amdt. A: since ethylene-vinyl alcohol copolymer is a hydrogen-bonding polymer as evidenced by col. 16, lines 19-21 of US 5,766,751 to Kotani et al., and since amide functional groups and ether functional groups are both capable of forming a hydrogen bonds as evidenced by col. 17, lines 61-68 of US 5,300,192 to Hansen et al., hydrogen bonding necessarily occurs between along a segment of the film between the first layer that comprises ethylene-vinyl alcohol

copolymer of Moreaux and the second layer of block amide polyether of Moreaux. The amendments in claims 2, 3, 5, 6, 9 and 10 do not affect the rejection of record.

Claim Rejections - 35 USC § 103

5. The 35 U.S.C. 103 rejections of claims 4, 7 and 8 made of record in paragraphs 8-10 of the previous Office Action mailed July 12, 2005 have been repeated for the reasons previously made of record and for the reason that addresses the amendment in claim 1 provided above in this Office Action. The amendments in claims 4, 7 and 8 do not affect the rejection of record.

NEW REJECTIONS

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,599,597 to Bonk et al. in view of U.S. Patent No. 5,036,110 to Moureaux.

Claim 1 of Bonk et al. recites a gas-filled cushioning device comprising a multilayer film formed into a gas-filled membrane having an interior compartment containing at least one capture gas constituent (see "said barrier membrane is sealed and is inflated with a gas" at lines

9-10 of claim 1) where the multilayer film includes a first layer comprising a combination of at least one aliphatic thermoplastic urethane and a copolymer of ethylene and vinyl alcohol wherein the first layer includes up to about 50 wt. % aliphatic thermoplastic urethane. Claim 1 of Bonk et al. recites a second layer that includes a thermoplastic urethane. Claim 1 of Bonk et al. recites that hydrogen bonding occurs along a segment of the membrane (which corresponds to the film as claimed in the instant application) between the first and second layers.

Claim 1 of Bonk et al. does not explicitly recite that the thermoplastic urethane of the second layer is a flexible resilient elastomeric thermoplastic material or that the multilayer film of Moureaux is capable of selectively resisting an outward diffusion of the capture gas constituent and capable of permitting an inward diffusion pumping of at least one mobile gas constituent.

Moureaux teaches a gas-filled device (membrane, col. 1, lines 6-7, col. 3, lines 26-27 and Fig. 2) comprising a multilayer film (col. 6, lines 10-17) formed into a gas-filled membrane having an interior compartment containing at least one capture gas constituent (col. 1, lines 6-15, col. 3, lines 26-27 and Fig. 2). Moureaux teaches that the multilayer film includes a first layer (item 2) comprising a combination of a thermoplastic urethane and a copolymer of ethylene and vinyl alcohol (col. 6, lines 10-17, col. 4, lines 5-10, col. 3, lines 28-36 and 40-44 and col. 3, line 67-col. 4, line 4). Moureaux teaches that the multilayer film includes a second, outer layer (item 3, col. 6, lines 10-17) that comprises blend of thermoplastic polyurethane and a block amide polyether (PEBA) (col. 6, lines 48-52, col. 3, lines 31-37 and col. 3, line 68-col. 4, line 4). PEBA is a flexible resilient elastomeric thermoplastic material as evidenced by US 5,925,054 to Taylor et al. at col. 4, lines 15-19. Since Moureaux teaches that the membrane is impervious to gases

(col. 1, lines 50-55) and that the second material, which is responsible for the enhanced imperviousness of the membrane, of Moureaux is selected from a particular group of polymers, which includes the copolymer of ethylene and vinyl alcohol (col. 1, line 66-col. 2, line 2), the multilayer film of Moureaux is capable of selectively resisting an outward diffusion of the capture gas constituent. Since Moureaux teaches that the membrane should allow a good transmission of pressures between the two compartments of the device (col. 1, lines 25-30), the multilayer film of Moureaux is capable of permitting an inward diffusion pumping of at least one mobile gas constituent (pressure is transmitted into a compartment by increasing the amount of gas in that compartment). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the blend of thermoplastic polyurethane and a block amide polyether (PEBA) of Moureaux as the thermoplastic polyurethane of Bonk et al. since a blend of thermoplastic polyurethane and a block amide polyether (PEBA) is a well known suitable material for use as a layer of a multilayer film formed into a gas-filled membrane as taught by Moureaux. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the copolymer of ethylene and vinyl alcohol of Bonk et al. is responsible for the enhanced imperviousness of the membrane as taught by Moureaux, and therefore that the multilayer film of Bonk et al. is capable of selectively resisting an outward diffusion of the capture gas constituent. Furthermore, since the membrane recited in claim 1 of Bonk et al. allows a certain amount of gas permeation, as indicated by the recited gas transmission rate, the multilayer film of Bonk et al. is capable of permitting an inward diffusion pumping of at least one mobile gas constituent.

Response to Arguments

8. Applicant's arguments presented on pages 5-6 of Amdt. A regarding the obviousness double patenting rejection of claim 1 made of record in paragraph 2 of the previous Office Action mailed July 12, 2005 have been fully considered but are not persuasive.

Applicant's arguments regarding the Taylor patent are moot since Taylor is not relied upon for a showing of obviousness in the new obviousness double patenting rejection which was necessitated by Applicant's amendment in claim 1 in Amdt. A. Taylor is cited to provide evidence of an inherent property of the block amide polyether of Moureaux.

Applicant incorrectly argues that the Office identified the invention recited in claim 1 in US 6,599,597 patentably distinct from the subject matter of claim 1 of the instant application. Claim 1 of 09/170,790 as originally filed recited a barrier membrane and did not recite that the membrane was filled with air. The cushioning device recited in claims 44-54 of 09/170,790 as originally filed recited "a multi-layer film which is formed into a gas-filled membrane having an interior compartment...". The two groups were restricted on the basis that the groups were related as intermediate and final products because the cushioning device of Group II was a film that read on the barrier membrane of Group I that was formed into a gas-filled membrane having an interior compartment, i.e. a film formed into a compartment that could then be filled with air. The recitation "wherein said barrier membrane is sealed and is inflated with a gas" in claim 1 of US 6,599,597 was not in claim 1 of 09/170,790 as originally filed, and makes the Group I claims as originally filed read on the Group II claims as originally filed. Claim 1 of US 6,599,597 reads on the Group II claims of 09/170,790 as originally filed drawn to a cushioning device, so the Office has not identified the invention recited in claim 1 in US 6,599,597 patentably distinct

from the gas-filled cushioning device of claim 1 of the instant application that reads on the Group II claims of 09/170,790 as originally filed.

9. Applicant's arguments presented on pages 6-10 of Amdt. A regarding the 35 U.S.C. 102 rejection of claims 1-3, 5, 6, 9 and 10 have been fully considered but are not persuasive.

Hydrogen bonding necessarily occurs between along a segment of the film between the first layer that comprises ethylene-vinyl alcohol copolymer and the second layer of block amide polyether of Moreaux because ethylene-vinyl alcohol copolymer is a hydrogen-bonding polymer as evidenced by col. 16, lines 19-21 of US 5,766,751 to Kotani et al., and because amide functional groups and ether functional groups are both capable of forming a hydrogen bonds as evidenced by col. 17, lines 61-68 of US 5,300,192 to Hansen et al. Moreaux does not solely teach the embodiment where ethylene-vinyl alcohol copolymer (EVOH) is embedded as islets in a layer of polyurethane: Moreaux also teaches the embodiment where an entire layer of the graft polymer of EVOH and polyurethane (item 2) is bonded to the layer of block amide polyether (item 3) (col. 6, lines 10-17 and Fig. 2).

In pages 8 and 9 of Amdt. A, Applicant repeatedly argues that Moreaux solely teaches the embodiment where EVOH is embedded as islets in a layer of polyurethane: Moreaux also teaches the embodiment where an entire layer of the graft polymer of EVOH and polyurethane (item 2) is bonded to the layer of block amide polyether (item 3) (col. 6, lines 10-17 and Fig. 2). Contrary to Applicant's repeated arguments, Moreaux does not "require[]" that the EVOH is embedded as islets in the layer of polyurethane: Moreaux teaches the embodiment where an entire layer of the graft polymer of EVOH and polyurethane (item 2) is bonded to the layer of block amide polyether (item 3) (col. 6, lines 10-17 and Fig. 2).

Applicant's argument that it would not "be obvious to Modify the Moreaux reference to make a barrier membrane in which the layers are hydrogen bonded together" is irrelevant because claim 1 is rejected under 35 U.S.C. 102. Moreaux does not "teach[] away from hydrogen bonding between the layers by teaching that the EVOH is imbedded in the layer" because Moreaux does not "require[]" that the EVOH is embedded as islets in the layer of polyurethane for the reasons discussed above. Applicant's statement that Moreaux teaches covalent bonding "between the EVOH and the polyurethane of its own layer" is unsupported.

Applicant argues that Moreaux teaches that the layer of graft polymer of EVOH and polyurethane has between 50 and 95% polyurethane, but Moreaux teaches that the layer contains between 50 and 95% EVOH (see col. 2, lines 36-39 [the "second material" is EVOH, col. 1, line 66-col. 2, line 1] and col. 6, lines 10-26). Applicant cites col. 2, lines 25-29, col. 3, lines 51-53 and claim 3 as teaching that the amount of EVOH "with respect to the [amount of polyurethane]" is 5 to 20%, but this is one embodiment taught by Moreaux, and is not required by Moreaux: Moreaux also plainly teaches an embodiment where the amount of EVOH "with respect to the [amount of polyurethane]" is 50 to 95% at col. 2, lines 36-39 and col. 6, lines 10-26. Contrary to Applicant's arguments, the EVOH is therefore not required to be a "minor portion" in the graft polymer.

10. Applicant's arguments presented on pages 10-11 of Amdt. A regarding the 35 U.S.C. 103 rejections of claims 4, 7 and 8 have been fully considered but are not persuasive. Applicant's arguments depend entirely upon Applicant's arguments regarding the 35 U.S.C. 102 rejection of claims 1-3, 5, 6, 9 and 10 which have been addressed above in this Office Action.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is to 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh
12/20/05 WBA

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

12/21/05